

## WEST

 

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TITLE: Methods for differentiating neural stem cells to glial cells using neuregulins

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## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Anderson; David J.	Altadena	CA		

US-CL-CURRENT: 435/325; 435/353, 435/368

## CLAIMS:

What is claimed is:

1. A method for producing a population of mammalian glial cells comprising contacting at least one mammalian neural stem cell with a culture medium containing a neuregulin, wherein said neuregulin is a ligand for a receptor selected from the group consisting of p185.sup.erbB2 and p180.sup.erbB4.
2. The method according to claim 1, wherein said neuregulin is a partially purified preparation from mammalian tissue.
3. The method according to claim 2, wherein said mammalian tissue is bovine pituitary gland.
4. The method according to claim 1, where said neuregulin is substantially pure.
5. The method according to claim 1, wherein said mammalian neural stem cell comprises a rat neural crest stem cell.
6. The method according to claim 1, further comprising detecting the differentiation of said stem cell to said population of glial cells.
7. The method according to claim 6, wherein said detecting is with an antibody specific for a marker for glial cells.
8. The method according to claim 1, wherein said neuregulin is glial growth factor and is named GGF, heregulin, neu differentiating factor (NDF), or acetylcholine receptor inducing activity (ARIA).
9. The method according to claim 8, wherein said glial growth factor is GGF-I, GGF-II, or GGF-III.
10. The method according to claim 8, wherein said glial growth factor is a partially purified preparation from mammalian tissue.
11. The method according to claim 10, wherein said mammalian tissue is bovine pituitary gland.
12. The method according to claim 8, where said neuregulin is substantially pure.

13. A method according to claim 8 wherein said stem cell comprises a rat neural crest stem cell.
14. A method according to claim 8 further comprising detecting the differentiation of said stem cell to said population of glial cells.
15. A method according to claim 14 wherein said detecting is with an antibody specific for a marker for glial cells.
16. A method for producing a population of mammalian glial cells comprising contacting at least one mammalian neural stem cell with a substantially pure neuregulin, wherein said neuregulin is a ligand for a receptor selected from the group consisting of p185.sup.erbB2 and p180.sup.erbB4.
17. A method for producing a population of mammalian glial cells comprising contacting at least one mammalian neural stem cell with a culture medium containing a neuregulin, wherein said neuregulin is a ligand for a receptor selected from the group consisting of p185.sup.erbB2 and p180.sup.erbB4.